

Attachment 3
Data Set Descriptions and Limitations

Attachment 3

Data Set Descriptions and Limitations

A3-1. GIS DATA SETS

NOTICE: *GIS data sets for endangered and sensitive species, undocumented data, and cultural resources should not be published.*

The GIS data sets stored in the ORACLE database files presented in Appendix A were first compiled as spreadsheet files. The spreadsheets were then uploaded into preformatted database tables. The raw data files are also retained in ERIS directories for archival purposes. The raw data file names are listed on Table C-1.

Table A3-1. Files containing raw data contents of the ORACLE database.

all.xls**	bbsa-e.txt*	killdeer.xls
Animals.xls*	bbsa-e.xls*	lbillcur.xls*
b-owl-analysis.xls*	bbsasses.xls*	lgbdowit.xls
b-owl-total-gps2.xls*	bbsg-i.lst*	logger.lst
Bat_anal.xls*	bbsg-i.xls*	lshrike.xls
bat_locations.txt*	bbsgps.txt*	ltsdpipe.xls
bat_veg100_v2_table.xls*	bbslst.xls*	macro1.xlm
Bbcorr.txt*	bk1-4.xlw	mallard.xls
Bbcorr.xls*	bk1-4jb.xlw	mdasses.xls*
Bbs.xls*	bk1-4jb2.xlw	merlin2.xls
Bbs1.xls*	blteal.xls	minski4.txt
Bbs10.txt*	bobcat55.xls	minski4.xls
Bbs10.xls*	boo2-4jb.xlw	muledeer.xls
Bbs11.txt*	book2-4.xlw	northpin.xls
Bbs11.xls*	burowl.xls*	northsh.xls
Bbs12.txt*	ciejb1.xlw	prghorn.xls
Bbs12.xls*	ciejb10.xlw	pronghrn.lst
Bbs13.txt*	ciejb2.xlw	redhead.xls
Bbs13.xls*	ciejb3.xlw	reptilea.wpd
Bbs14.txt*	ciejb4.xlw	robinlt.xls
Bbs14.xls*	ciejb5.xlw	rudduck.xls
Bbs15.txt*	ciemin1.xlw*	sageliz.xls
Bbs15.xls*	ciemin10.xlw	sheet5.xls

Bbs16.txt*	ciemin2.xlw	snipejb.xls
Bbs16.xls*	ciemin3.xlw	species2.xls
Bbs17.txt*	ciemin4.xls	swhawk.xls
Bbs17.xls*	ciemin4.xlw	wfibis.xls
Bbs18.txt*	ciemin5.xlw	
Bbs18.xls*	ciemin6.xlw	
Bbs1jb.txt*	ciemin7.xlw	
Bbs1jb.xls*	ciemin8.xlw	
Bbs3.doc*	ciemin9.xlw	
Bbs4.txt*	cinnteal.xls	
Bbs4.xls*	cinntejb.xls	
Bbs5.txt*	csnipc.xls	
Bbs5.xls*	deer2.xls	
Bbs6.txt*	deerdata.xls	
Bbs6.xls*	ecosteps.doc*	
Bbs7.txt*	elk.xls	
Bbs7.xls*	elkasses.xls*	
Bbs8.txt*	fhawk.xls*	
Bbs8.xls*	gpsdata.doc*	
Bbs9.txt*	grnteal.xls	
Bbs9.xls*	interest.xls	

A3-1.1 ENV_OBS_DAT

The GIS compatible version of files listed in Table C-1 are housed in file ENV_OBS_DAT. A summary of the contents of the ENV_OBS_DAT file is given in Table C-2, including species for which data are available (common name), the number of data records for that species (count), and source publications from which data were obtained (key).

A3-1.2 BBS

The breeding bird surveys (BBS) constitute the largest body of long-term, INEEL-specific data available for GIS analyses. BBS data have been incorporated in distribution data sets for the following species:

- Burrowing owl
- Ferruginous hawk
- Loggerhead shrike.

The BBS data sets contain records for numerous other bird species observed on the INEEL. However, prior to further GIS applications, the contents of this data set should be reconciled with the data compiled by Belthoff and Reynolds (ESRF 1998).

A3-1.3. Independent Data

In addition to the files created specifically for this database, several preexisting GIS data sets are also available for inclusion in the OU 10-04 assessment. In some cases, existing data sets have been combined with newer sets (e.g., burrowing owl analysis combines BBS and ESRF data). These data sets contain telemetry or other location data for species including:

- Elk (studies by Strohmeier [1992], Peek and Comer [ESRF 1999])
- Mule deer (studies by Peek and Beaver [ESRF 1998,1999])
- Bobcat (telemetry data from undocumented sources)
- Burrowing owl (studies by Fahler 9[ESRF 1999])
- Sage grouse (lek locations from undocumented sources)
- Ferruginous hawk and other hawk nesting sites (source unknown)
- Sensitive plant species (from undocumented surveys).

Elk and mule deer GIS data sets contain radio-telemetry location data associated with radio-collared deer and elk. The data for burrowing owls includes GPS locations for nesting sites for several years (ESRF 1999). Sage grouse lek locations have been compiled from several, undocumented sources, as have the nesting locations for several hawk species, including the ferruginous hawk.

These data sets are largely undocumented and some data sets contain sensitive data (e.g., nesting locations) for important species. In others, the data sources have not been documented, data ownership/copyright is unclear, or contents have not been verified. Consequently, these data should be subject to controlled distribution based on specific consideration of these limitations.

A3-2. ADDITIONAL DATA

Data that may also be pertinent to risk characterization, but that have not been confirmed as necessary to support the ERA include

- Species density (number of individuals per unit area is required if impact analysis includes an estimate of the number of individual animals affected)
- Total INEEL population for each species of interest (required for comparison of INEEL population to regional populations for impact analysis).

Limited density and population data are available for INEEL species. If risk characterization is to include this type of interpretation, pertinent data must be compiled and analyzed for species shown by the ERA to be at risk.

A3-3. REFERENCES

Reynolds, T. D. and R. W. Warren, editors, 1998, *Annual Technical Report to DOE-ID: Calendar Year 1997*, ESRF-027, Environmental Science and Research Foundation, Idaho Falls, ID.

Strohmeyer, D. C., 1992, Elk use of sagebrush desert in Southeastern Idaho, M. S. Thesis, University of Idaho, Moscow, ID.

Weigmann, D. L. and R. D. Blew, editors, 1999, *Annual Technical Report to DOE-ID: Calendar Year 1998*, ESRF-033, Environmental Science and Research Foundation, Idaho Falls, ID.

Table A3-2. Summary of records contained in ERA_STUDY_INFO.

COUNT (*)	KEY COMMON_NAME
2	33 Pygmy rabbit
2	41 Gopher snake
2	41 Great Basin rattlesnake
1	41 Sagebrush Lizard
2	41 Short-horned lizard
2	85 Pygmy rabbit
2	89 Ferruginous hawk
2	89 Loggerhead shrike
2	89 Long-billed curlew
2	131 Deer Mouse
2	131 Great basin Pocket mouse
2	131 Least chipmunk
2	131 Montane Vole
2	131 Northern Grasshopper Mouse
2	131 Ord's kangaroo rat
2	131 Sage Vole
2	131 Townsend's ground squirrel
4	139 Deer Mouse
2	139 Great basin pocket mouse
2	139 Least chipmunk
4	139 Montane Vole
4	139 Northern Grasshopper Mouse
4	139 Ord's kangaroo rat
4	139 Sage Vole
3	161 Plains milkvetch
4	161 Spreading Gilia
2	161 Wing-seeded evening primrose
2	178 Sage lizard
2	190 Deer Mouse
2	190 Montane Vole
2	190 Ord's kangaroo rat
5	212 Merriam's Shrew
5	214 Small-footed Myotis
5	214 Townsend's Big-eared Bat
1	215 Sage Vole
2	218 Bushytailed woodrat
2	218 Deer Mouse
2	218 Great basin Pocket mouse
2	218 Least chipmunk
2	218 Montane Vole
2	218 Northern Grasshopper Mouse
2	218 Ord's kangaroo rat
2	218 Sage Vole
2	218 Townsend's ground squirrel
2	219 Deer Mouse
2	219 Montane Vole
2	219 Ord's kangaroo rat
2	219 Townsend's ground squirrel
2	242 Deer Mouse
2	242 Great basin Pocket mouse
2	242 Ord's kangaroo rat
2	257 Deer Mouse

Table A3-2. (continued).

COUNT (*)	KEY	COMMON_NAME
2	257	Great basin Pocket mouse
2	257	Least chipmunk
2	257	Montane Vole
2	257	Northern Grasshopper Mouse
2	257	Ord's kangaroo rat
2	277	Deer Mouse
2	277	Great basin Pocket mouse
2	277	Least chipmunk
2	277	Montane Vole
2	277	Ord's kangaroo rat
6	278	Small-footed Myotis
6	278	Townsend's Big-eared Bat
2	293	Deer Mouse
23	311	American avocet
27	311	American coot
3	311	American kestrel
2	311	American robin
57	311	American widgeon
2	311	Baird's sandpiper
2	311	Barrow's goldeneye
1	311	Bonaparte's gull
24	311	Brewer's blackbird
1	311	Brewer's sparrow
2	311	California gull
3	311	California gull
7	311	Canada goose
1	311	Eastern kingbird
18	311	European starling
8	311	European starling
1	311	Franklin's gull
1	311	Lapland longspur
1	311	Lazuli bunting
1	311	Lewis' woodpecker
3	311	Lincoln's sparrow
3	311	MacGillivrey's warbler
4	311	Nuttall's cottontail
3	311	Say's phoebe
1	311	Say's phoebe
2	311	Say's phoebe
1	311	Swainson's hawk
1	311	Townsend's solitaire
1	311	Virginia rail
32	311	Wilson's phalarope
5	311	Wilson's warbler
3	311	bank swallow
26	311	bank swallow
70	311	barn swallow
1	311	belted kingfisher
1	311	black tern
4	311	black tern
33	311	black-billed magpie

Table A3-2. (continued).

COUNT (*)	KEY COMMON_NAME
1	311 black-crowned night heron
1	311 black-tailed jackrabbit
39	311 blue-winged teal
11	311 brown-headed cowbird
23	311 bufflehead
1	311 burrowing owl
9	311 canvasback
1	311 cattle egret
38	311 cinnamon teal
9	311 cliff swallow
10	311 common goldeneye
5	311 common merganser
31	311 common nighthawk
2	311 common poorwill
7	311 common raven
6	311 common snipe
2	311 coyote
4	311 dark-eyed junco
13	311 eared grebe
1	311 ferruginous hawk
25	311 gadwall
2	311 gray flycatcher
2	311 gray partridge
2	311 great blue heron
1	311 great blue heron
4	311 greater yellowlegs
68	311 green-winged teal
2	311 hooded merganser
30	311 horned lark
2	311 house finch
2	311 house sparrow
1	311 house wren
97	311 killdeer
1	311 lark bunting
11	311 least sandpiper
1	311 lesser goldfinch
7	311 lesser scaup
4	311 loggerhead shrike
4	311 long-billed dowitcher
49	311 mallard
7	311 marsh wren
1	311 mountain bluebird
57	311 mourning dove
4	311 mule deer
7	311 mule deer
11	311 muskrat
1	311 northern flicker
1	311 northern flicker
20	311 northern harrier
10	311 northern pintail
31	311 northern rough-winged swallow

Table A3-2. (continued).

COUNT (*)	KEY	COMMON_NAME
22	311	northern shoveler
1	311	northern shrike
1	311	porcupine
1	311	prairie falcon
26	311	pronghorn
1	311	raccoon
6	311	red-necked phalarope
4	311	red-necked phalarope
18	311	red-winged blackbird
15	311	redhead
5	311	ring-billed gull
5	311	ring-necked duck
5	311	rock dove
1	311	rock wren
1	311	rough-legged hawk
1	311	ruby-crowned kinglet
26	311	ruddy duck
6	311	sage grouse
13	311	sage sparrow
13	311	sage thrasher
2	311	savannah sparrow
1	311	savannah sparrow
1	311	short-eared owl
1	311	solitary vireo
9	311	song sparrow
3	311	sora
1	311	solitary vireo
7	311	solitary sandpiper
56	311	spotted sandpiper
2	311	surf scoter
11	311	tree swallow
1	311	trumpeter swan
17	311	vesper sparrow
5	311	violet-green swallow
8	311	violet-green swallow
19	311	water pipit
1	311	western grebe
15	311	western sandpiper
1	311	western wood-pewee
1	311	western flycatcher
4	311	western kingbird
34	311	western meadowlark
6	311	western sandpiper
1	311	western tanager
8	311	white-crowned sparrow
3	311	white-crowned sparrow
2	311	white-tailed jackrabbit
12	311	willet
4	311	wood duck
1	311	yellow warbler
2	311	yellow warbler

Table A3-2. (continued).

COUNT (*)	KEY	COMMON_NAME
1	311	yellow-breasted chat
28	311	yellow-headed blackbird
12	311	yellow-rumped warbler
1	321	Townsend's Big-eared Bat
2	331	Great Basin rattlesnake
34	1001	Pronghorn Antelope
47	1002	Pronghorn Antelope
23	1003	Pronghorn Antelope
30	1004	Pronghorn Antelope
15	2001	Elk
7	2002	Elk
4	2003	Elk
4	2004	Elk
1	3001	Mule deer
2	3002	Mule deer
3	3003	Mule deer
2		Great basin Pocket mouse
2		Least chipmunk

Attachment 4
Interpretive Maps

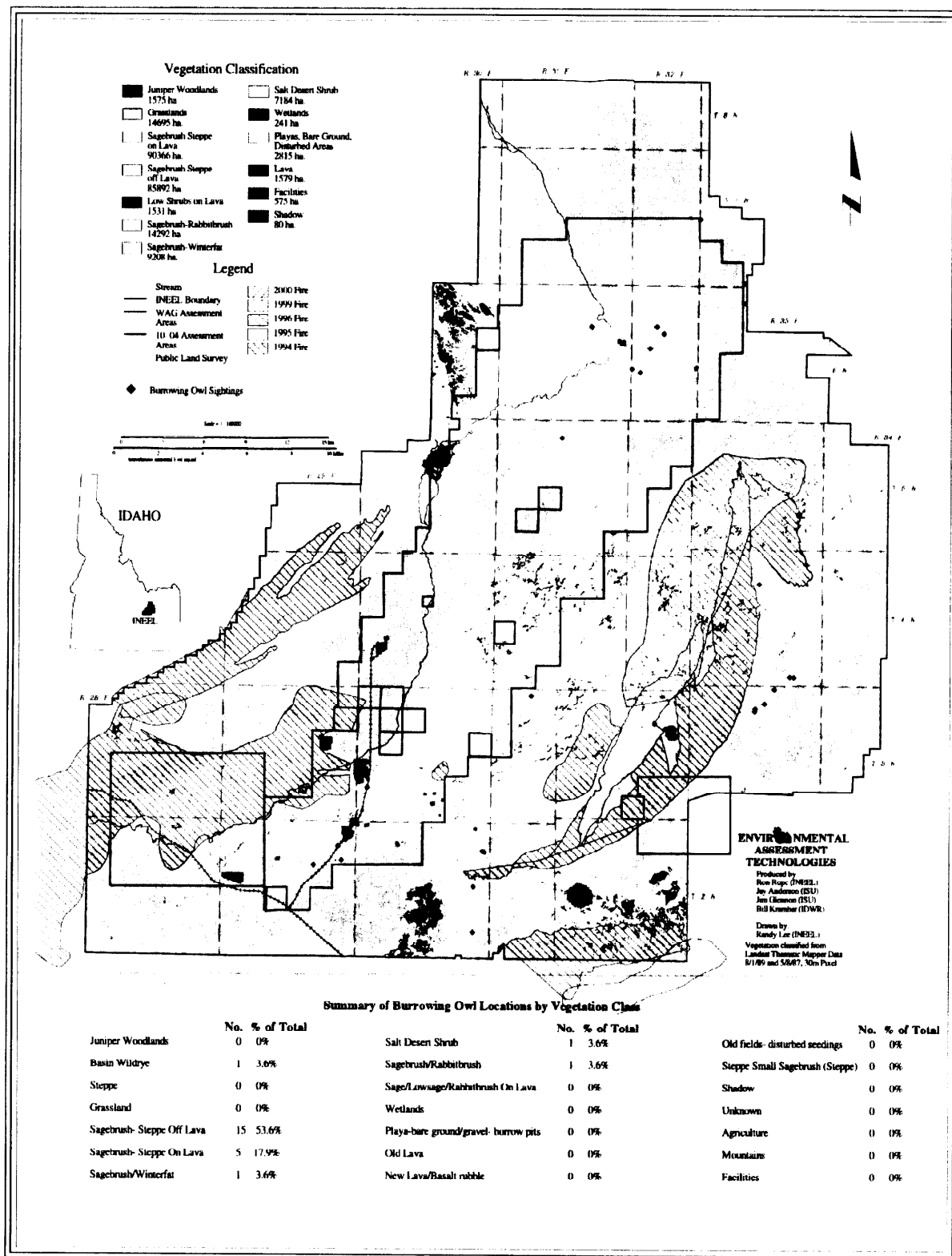


Figure A4-1. Interpretive map for burrowing owl distribution.

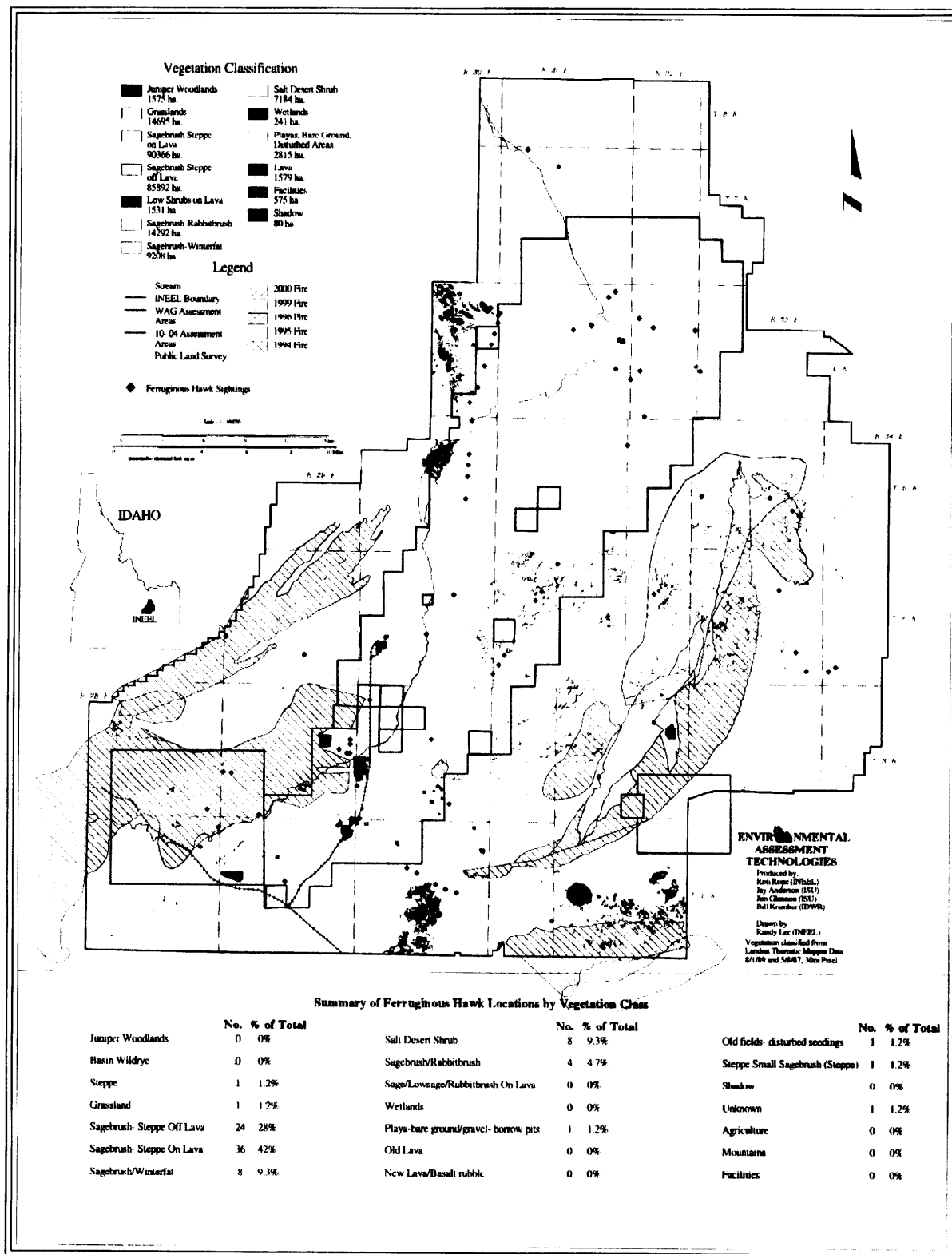


Figure A4-2. Interpretive map for the ferruginous hawk.

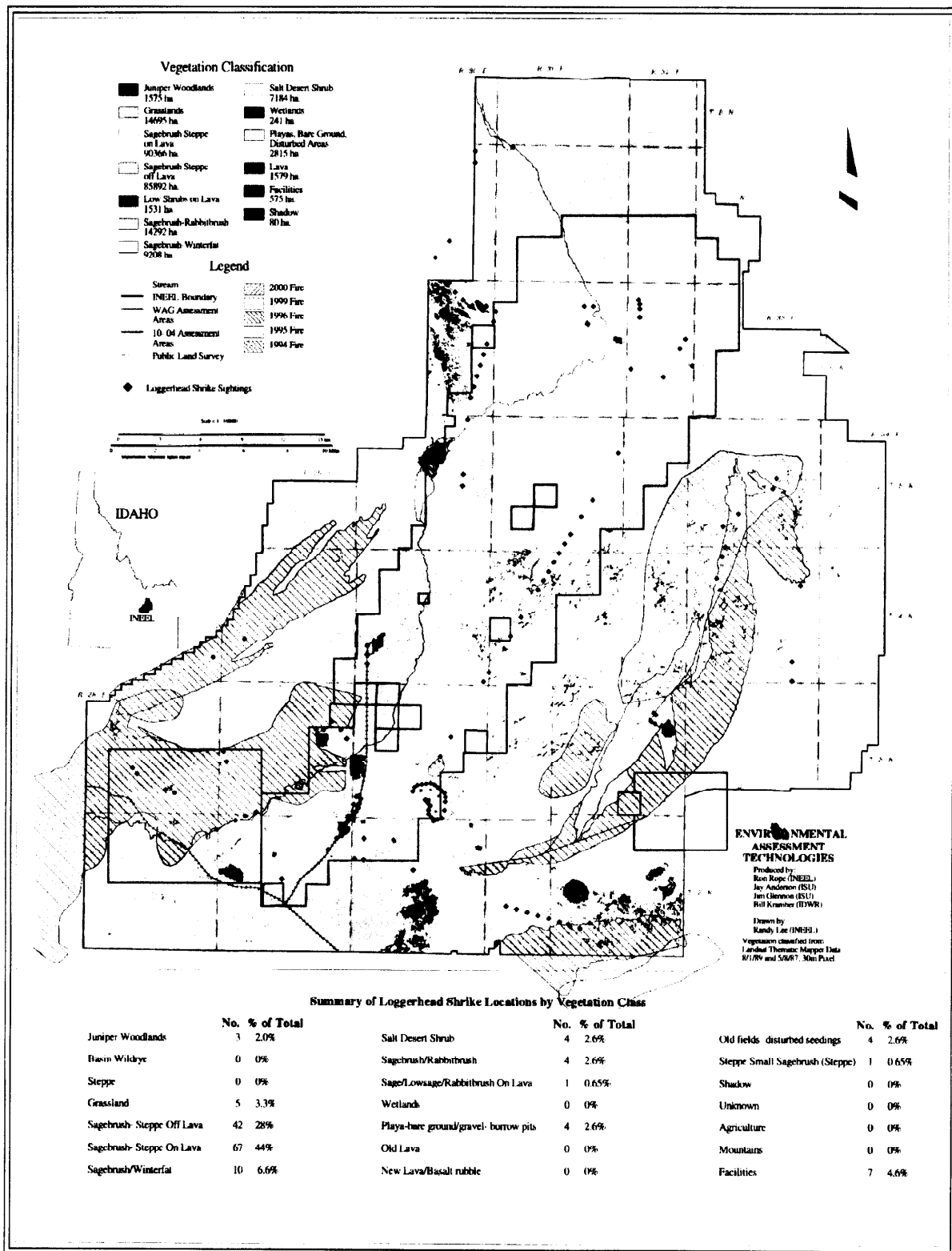


Figure A4-3. Interpretive map for distribution of the loggerhead shrike.

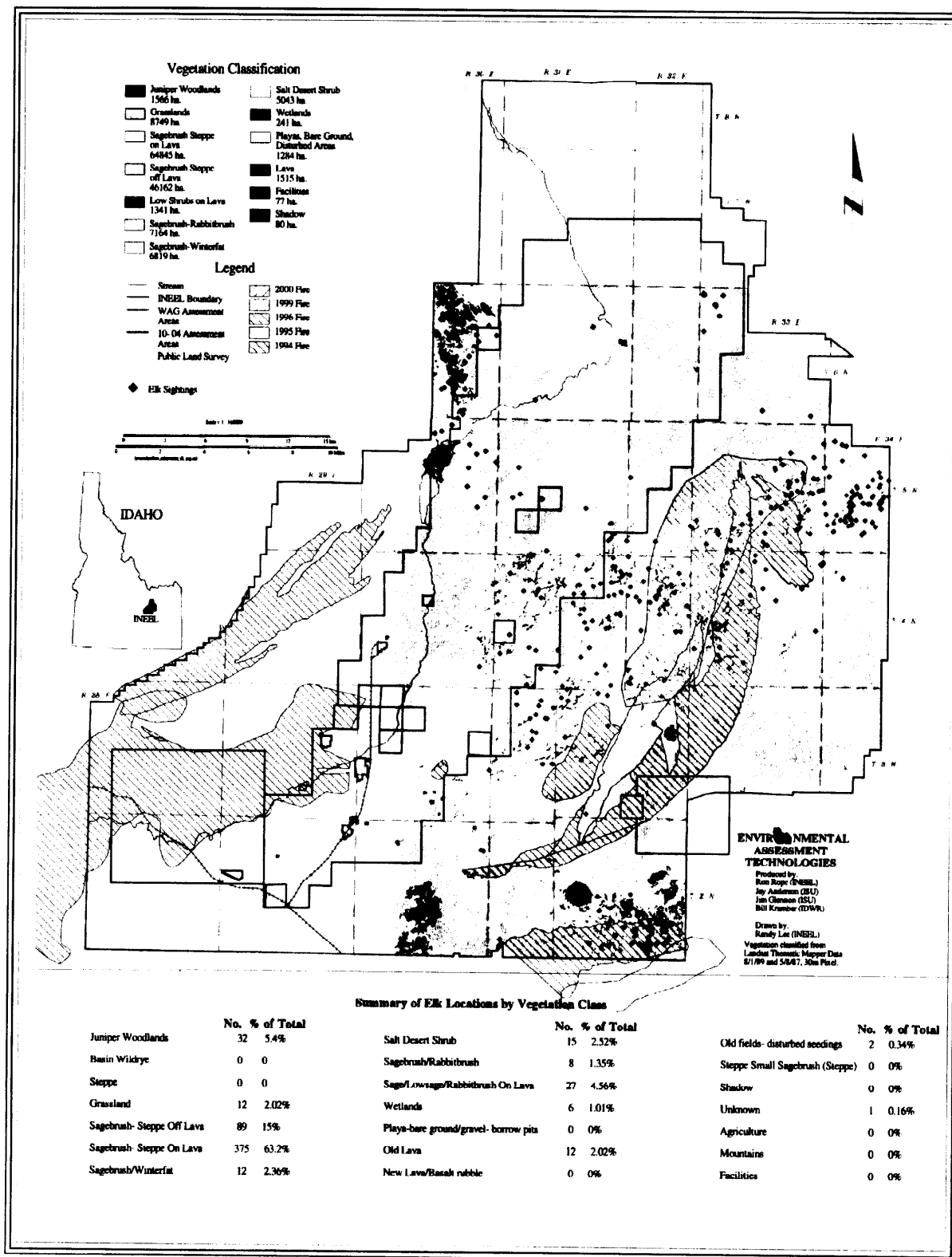


Figure A4-4. Interpretive map for Elk distribution.

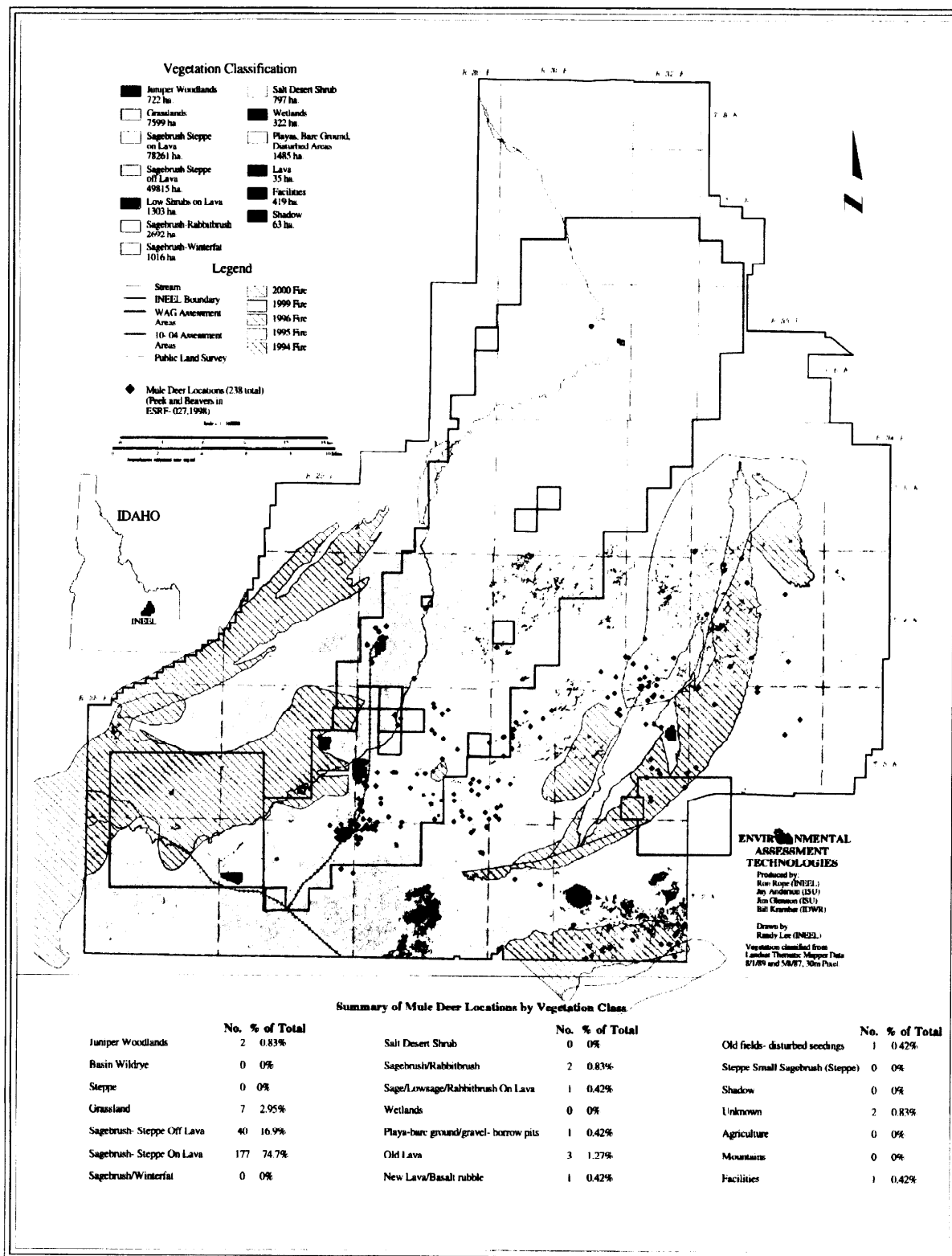


Figure A4-5. Interpretive map for the distribution of mule deer.

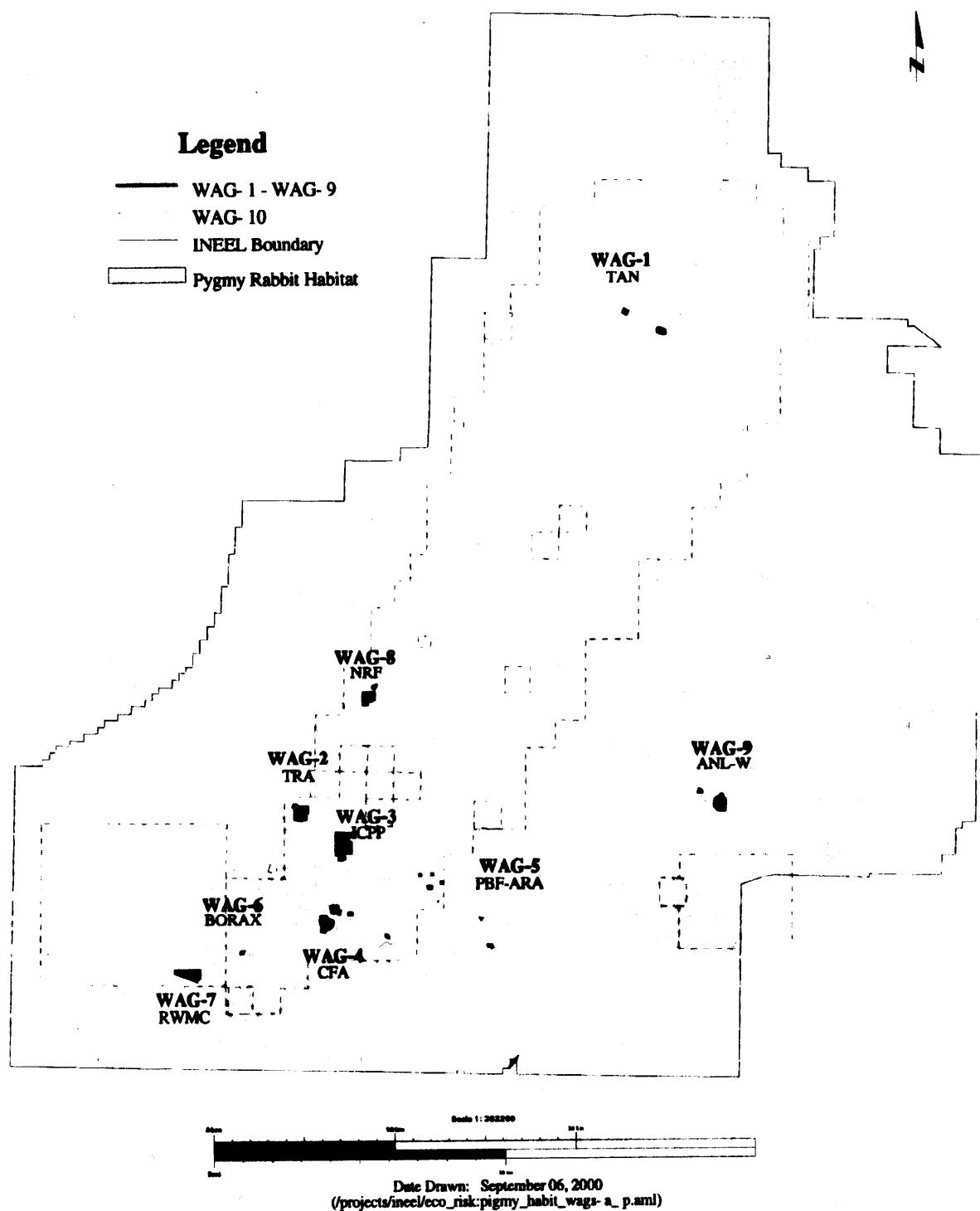


Figure A4-6. Interpretive map for the distribution of pygmy rabbits.